

ABSTRACT

The present invention is to provide a wavelength tunable DBR laser having the wider wavelength tuning characteristic, able to attain a 6nm or more continuous wavelength shift and also higher in output power than a conventional wavelength tunable DBR laser. The DBR laser is constituted such that optical waveguides formed on a substrate, comprising an active region optical waveguide 22 having a light emitting function and passive region optical waveguides 23a and 23b provided on both ends of the active region 22, these passive region optical waveguides 23a and 23b have anterior and posterior DBR regions 24 and 29 with a wavelength tuning function, a posterior DBR region 29 is provided with a diffraction grating whose length is 95% or more in a saturated effective length value, and an anterior DBR region 24 whose length is shorter than the above length to take out the emitting light.